



A.W.A. RADIOLA TELEVISION RECEIVER CHASSIS 50-00 SERIES

ISSUED BY AMALGAMATED WIRELESS (AUSTRALASIA) LTD.

GENERAL DESCRIPTION

The 50-00 series chassis is an 18-valve, vertically mounted, mains-operated, hand-wired, chassis using the easily serviced hinge-down construction. It features a 14-channel neutrode tuner, a 3-stage video I.F., ratio detector, stabilised horizontal and vertical scanning.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

INTERMEDIATE FREQUENCIES

Video I.F. Carrier Frequency 36.875 Mc/s

Sound I.F. Carrier Frequency 31.375 Mc/s

POWER CONSUMPTION 170 watts maximum

UNDISTORTED AUDIO POWER OUTPUT 2 watts

FOCUS Electrostatic (Low Voltage)

DEFLECTION 110° Magnetic

TUNER TYPE TB Series
(Refer Tuner Service Manual for Electrical
Specifications and Alignment Procedure.)

VALVE AND DIODE COMPLEMENT

1. V1 Radiotron 6GK5 R.F. Amplifier
2. V2 Radiotron 6HG8 R.F. Osc. and Mixer
3. V101 Radiotron 6AU6 Sound I.F.
4. V102 Radiotron 6AL5 Ratio Detector
5. V103 Radiotron 6AV6 Audio Amp.
6. V104 Radiotron 6AQ5 Audio Output
7. V201 Radiotron 6BZ6 1st Video I.F.
8. V202 Radiotron 6CB6 2nd Video I.F.
9. V203 Radiotron 6CB6 3rd Video I.F.
10. V204 Radiotron 6EB8 .. Video Amp. and Sync. Sep.
11. V205 Radiotron 23GSP4 or 25TP4 ... Picture Tube
12. V301 Radiotron 6CB6 A.G.C. Amplifier
13. V302 Radiotron 6GV8 Vert. Osc. and Output
14. V401 Radiotron 6AL5 Phase Discriminator
15. V402 Radiotron 12AU7A Horizontal Oscillator
16. V403 Radiotron 6CM5 Horizontal Output
17. V404 Radiotron 6AU4-GTA Damper
18. V405 Radiotron 1B3-GT H.V. Rectifier
- MR201 1N87A Video Detector
- MR202 1N3193 Spot Suppressor
- MR401 1N3194 Rectifier
- MR402 1N3194 Rectifier

HIGH VOLTAGE WARNING

Operation of this receiver outside the cabinet involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Do not operate the receiver with the high voltage compartment shield removed. Make sure that the earth strap between the chassis and the picture tube assembly is securely fastened before turning the receiver on.

PICTURE TUBE HANDLING PRECAUTIONS

Do not install, remove or handle the picture tube in any manner unless shatter-proof goggles are worn. Keep the picture tube away from the body while handling.

When the receiver is switched off after operating for a time, the picture tube will retain a certain charge. Therefore it is advisable to discharge it before handling.

DEFLECTION YOKE ADJUSTMENT

If the lines of the raster are not horizontal or squared with the picture tube, rotate the deflection yoke until this condition is obtained. Tighten the yoke clamp.

FOCUS ADJUSTMENT

This adjustment has been made at the factory and it should only be necessary to re-adjust if the picture tube is replaced. In this case, adjust the focus control, RV403, until maximum definition of the line structure of the raster is obtained.

HORIZONTAL OSCILLATOR ADJUSTMENT

The adjustment of the horizontal oscillator is not considered to be part of the alignment procedure. The adjustment is made at the factory and should not require re-adjustment in the field. However, the adjustment should be carried out whenever components in the horizontal oscillator circuit are changed.

The horizontal oscillator may be adjusted by the following method:

1. Short circuit the sine wave coil, L401, and earth the sync. test point.
2. Set the horizontal hold control, RV402, to its mid position.
3. Adjust the horizontal hold pre-set control, RV401, until the picture is synchronised with the signal, i.e., picture sides are straight.
4. Remove the short circuit from the sine wave coil.
5. Adjust the core of the sine wave coil until the picture is synchronised with the signal.
6. Remove the earth from the sync. test point.

CENTRING ADJUSTMENT

As the majority of test patterns transmitted contain horizontal and vertical bars, the correct procedure for centring adjustment, horizontally or vertically, is that the corresponding bars progressing outwards from the centre should have the same amount of pin-cushion distortion (if any).

The centring magnets are in the form of two discs mounted on the rear of the deflection yoke cap. When the magnets are rotated around the tube neck so that the levers are opposite, minimum centring effect with either lever is produced. To obtain correct centring of the picture, the magnets are alternatively rotated with respect to each other.

CAUTION

Under no circumstances should the receiver be switched on with the deflection yoke removed from the picture tube. This produces an undeflected spot which may damage the screen.

WIDTH AND HORIZONTAL LINEARITY ADJUSTMENTS

The width and horizontal linearity controls, RV404 and L403, in conjunction with the vertical adjustments, are adjusted to produce best linearity for a picture of the correct aspect ratio with normal picture brightness.

HEIGHT AND VERTICAL LINEARITY ADJUSTMENTS

Adjust the height control, RV303, for minimum height.

Set the top linearity control, RV304, to its mean position.

Adjust the vertical linearity control, RV305, for best overall linearity.

Re-adjust the height control, RV303, for correct height, i.e., approximately $\frac{1}{2}$ " of picture extending beyond the top and bottom of the picture tube mask.

Finally, if necessary, adjust, in conjunction with each other, the height, top linearity and vertical linearity controls for best linearity and correct height.

A.G.C. ADJUSTMENT

The following adjustments should only be performed after all other receiver adjustments have been satisfactorily carried out.

With the receiver tuned to a medium strength signal (about 1 mV or suitable attenuated signal) make the following adjustment.

With a picture of normal brightness and contrast, adjust the I.F. A.G.C. control RV301 for snow threshold.

Note: Clockwise rotation of the I.F. A.G.C. control increases snow.

REPLACEMENT OF FUSES

Two 1.5 amp. fuses are provided for mains and H.T. protection. Their location and function are indicated on the layout diagram.

ALIGNMENT PROCEDURE

Testing Instruments

To properly service the television receiver it is recommended that the following test equipment be available:

1. A.W.A. Television Sweep Generator, type A56036.
2. A.W.A. Cathode Ray Oscilloscope (c.r.o.), type A56031.
3. A.W.A. Voltomyst, type 2A56074.
4. A.W.A. Voltomyst Probe, type 2R56075.
5. A.W.A. Television Calibrator, type A56057.

Sound and Video I.F. Alignment

Note: When two positions of the core appear to give the correct adjustment, the following apply:

*Coil tuned with core close to the chassis.

†Coil tuned with core close to the can top, i.e., remote from chassis.

Sound I.F. Alignment

Connect the output of the television calibrator to the video detector test point and set the frequency to 5.5 Mc/s.

Connect the voltomyst d.c. probe to pin 2 of V102 (6AL5) and set the range switch to -5 volts d.c.

Short circuit pin 1 of V203 (3rd video I.F. grid) to ground.

Adjust the following cores for peak output varying the input to maintain a reading of about -2 volts.

TR101 secondary (ratio detector bottom core)*

TR101 primary (top core)†

L101 (sound take off coil)*

L206 (sound trap)*

Repeat this sequence once.

Transfer the Voltomyst probe to the junction of R104 and C109.

Re-adjust TR101 secondary (bottom core) for zero reading on the Voltomyst.

Set the calibrator modulation switch to 600 c/s.

Connect the c.r.o. to the video out test point through a crystal probe (Voltomyst probe 2R56075 is suitable).

Set the contrast control at its maximum position.

Re-adjust L206 (sound trap) * for minimum 600 c/s on the c.r.o.

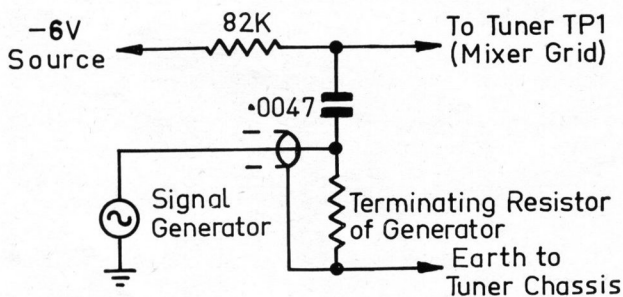
Remove television calibrator, Voltomyst and short circuit on V203 grid.

Video I.F. Alignment

Short circuit the junction of R304 and R306 to earth.

Connect a source of -3 volts bias to the junction of R201 and C204.

With the tuner on the blank channel, connect the sweep generator (30-39 Mc/s sweep, correctly terminated) to the mixer grid of the tuner, through the network shown in Fig. 1.



T1195

FIG. 1

Connect the crystal detector probe (Fig. 2) to pin 5 of V201 (1st Video I.F. plate) and also by-pass pin 5 of V202 using the by-pass lead provided.

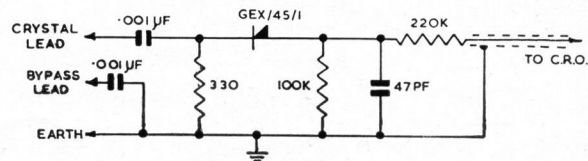


FIG. 2—CRYSTAL DETECTOR PROBE

Set the sweep generator output to give maximum deflection on the c.r.o. of 0.3 volts p-p. It is suggested that the marker generator be connected to the centre spigot on the socket of V201 and the earth lead connected to the chassis.

Set the marker generator to 38.375 Mc/s and adjust L201† so that the marker appears in the dip of the response produced by the trap, i.e., tune the trap to 38.375 Mc/s.

Adjust L2*, L202* and trimmer C203 to produce the response on the c.r.o. shown in Fig. 3.

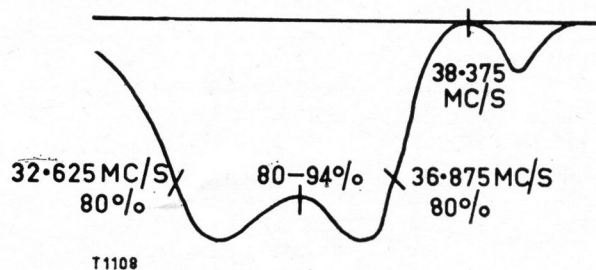


FIG. 3

L2* mainly affects 36.875 marker position.

L202* mainly affects tilt.

C203 mainly affects the band width.

Overall Alignment

Remove the crystal probe and connect the c.r.o. to the video detector test point using the network shown in Fig. 4. It is suggested that the marker generator remain connected to the centre spigot of V201 socket.

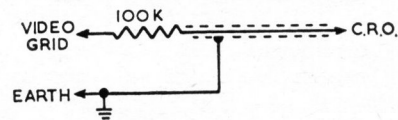


FIG. 4

View overall response with approximately 3 volts p-p output and adjust the accompanying sound trap TR202 (top core) † for minimum response at 30.875 Mc/s increasing the c.r.o. gain if necessary for easier adjustment of the trap.

Re-set the c.r.o. gain to give 3 volts p-p and adjust for a response as shown in Fig. 5.

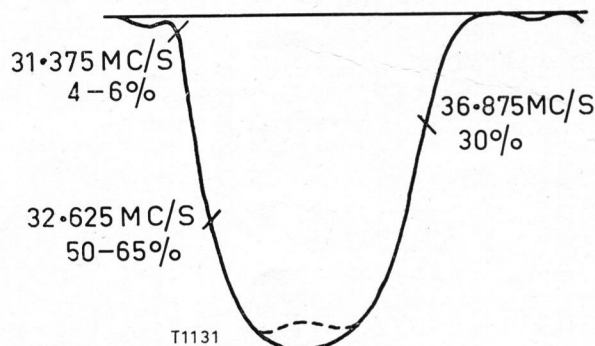


FIG. 5

Marker 36.875 Mc/s at 30% TR202*

Marker 31.375 Mc/s at 4% - 6% TR201*

No tilt TR203*

Check that the 32.625 Mc/s marker is at 50% - 65%, otherwise re-adjust TR201* and correct tilt with TR203* if necessary.

CIRCUIT CODE—50-00 Series TV Chassis

Code No.	DESCRIPTION			Part No.	Code No.	DESCRIPTION			Part No.
RESISTORS					RESISTORS (cont.)				
All Resistors composition type unless otherwise stated.					R313	1.5 Megohms	±10%	½ watt	
R1	5.6K ohms	±20%	½ watt		R314	680K ohms	±10%	½ watt	
R2	1K ohms	±20%	½ watt		R315	Not used			
R3	33K ohms	±20%	½ watt		R316	22K ohms	±10%	2 watts	
R4	2.2K ohms	±10%	1 watt		R317	27K ohms	±10%	2 watts	
R5	2.2K ohms	±20%	½ watt		R318	82K ohms	±10%	½ watt	
R6	4.7K ohms	±10%	1 watt		R319	82K ohms	±10%	1 watt	
R7	10K ohms	±20%	½ watt		R320	Not used			
R8	Not used				R321	1 Megohm	±10%	½ watt	
R9	2.2K ohms	±20%	½ watt		R322	68K ohms	±10%	½ watt	
R101	220 ohms	±10%	½ watt		R323	220K ohms	±10%	1 watt (IRC)	
R102	56K ohms	±10%	2 watts		R324	100K ohms	±10%	1 watt	
R103	47 ohms	±10%	½ watt		R325	Not used			
R104	15K ohms	±10%	½ watt		R326	33K ohms	±10%	1 watt	
R105	Not used				R327	33 Megohms	±10%	1 watt	
R106	4.7K ohms	± 5%	½ watt		R328	680K ohms	±10%	1 watt (Ducon or Morg.)	
R107	4.7K ohms	± 5%	½ watt		R329	680K ohms	±10%	½ watt (Ducon or Morg.)	
R108	10 Megohms	±10%	½ watt		R330	Not used.			
R109	3.3K ohms	±10%	½ watt		R331	6.8 Megohms	±10%	1 watt	
R110	Not used				R332	270K ohms	±10%	1 watt (IRC)	
R111	330K ohms	±10%	½ watt		R333	4.7K ohms	±10%	½ watt	
R112	10K ohms	±20%	½ watt		R334	1.2 Megohms	±10%	1 watt	
R113	270 ohms	±10%	1 watt		R335	Not used.			
R201	2.2K ohms	±10%	½ watt		R336	68K ohms	±10%	1 watt (Ducon or Morg.)	
R202	47 ohms	±10%	½ watt		R337	2.2 Megohms	±10%	1 watt (IRC)	
R203	470 ohms	±10%	½ watt		R338	680 ohms	±10%	5 watts W.W.	
R204	8.2K ohms	± 5%	½ watt		R339	270K ohms	±10%	½ watt	
R205	Not used				R340	Not used.			
R206	150K ohms	±10%	½ watt		R341	100K ohms	±10%	½ watt	
R207	120K ohms	±10%	½ watt		R342	100K ohms	±10%	½ watt	
R208	15K ohms	±10%	½ watt		R343	1.2 Megohms	±10%	½ watt	
R209	39 ohms	±10%	½ watt		R344				
R210	Not used				R401	470K ohms	±10%	½ watt	
R211	8.2K ohms	± 5%	½ watt		R402	470K ohms	±10%	½ watt	
R212	1.5K ohms	±20%	½ watt		R403	390K ohms	±10%	½ watt	
R213	150 ohms	±10%	½ watt		R404	33K ohms	±10%	½ watt	
R214	39K ohms	±10%	1 watt		R405	820K ohms	±10%	1 watt	
R215	Not used				R406	47K ohms	±10%	1 watt	
R216	3.3K ohms	±10%	1 watt		R407	2.2K ohms	± 5%	1 watt	
R217	Not used				R408	68K ohms	±10%	1 watt	
R218	2.7K ohms	±10%	½ watt		R409	47K ohms	±10%	½ watt	
R219	470 ohms	±10%	½ watt		R410	Not used.			
R220	Not used				R411	1K ohm	±20%	½ watt	
R221	10 ohms	±10%	½ watt		R412	15K ohms	±10%	1 watt	
R222	33 ohms	±10%	½ watt		R413	27K ohms	±10%	½ watt	
R223	18K ohms	±10%	2 watts		R414	1K ohm	±20%	½ watt	
R224	4.7K ohms	± 5%	7 watts W.W.		R415	Not used.			
R225	1K ohm	±10%	½ watt		R416	680K ohms	±10%	½ watt	
R226	12K ohms	±10%	1 watt		R417	100K ohms	±10%	½ watt	
R227	3.3K ohms	±10%	½ watt		R418	2.7K ohms	±10%	5 watts W.W.	
R228	47K ohms	±10%	2 watts		R419	1 Megohm	±10%	1 watt	
R229	220K ohms	±10%	½ watt		R420	Not used.			
R230	Not used				R421	820K ohms	±10%	1 watt BTAV	
R231	3.9K ohms	±10%	½ watt		R422	1.5 ohms	±10%	½ watt W.W.	
R232	47 ohms	±10%	½ watt (Ducon or Morg.)		R423	680K ohms	±20%	½ watt	
R233	3.3 Megohms	±20%	½ watt		R424	470K ohms	±10%	1 watt	
R301	47K ohms	±10%	½ watt		R425	Not used.			
R302	680K ohms	±10%	½ watt		R426	390K ohms	±10%	1 watt	
R303	10 Megohms	±10%	1 watt		R427	1K ohm	±20%	½ watt	
R304	470K ohms	±10%	½ watt		R428	150 ohms	±10%	½ watt } In	
R305	150K ohms	±10%	½ watt		R429	150 ohms	±10%	½ watt } Yoke	
R306	33K ohms	±10%	½ watt		R430	Not used.			
R307	47K ohms	± 5%	1 watt		R431	3.3K ohms	±10%	7 watts W.W.	
R308	47K ohms	±10%	½ watt		RV101	1 Megohm Curve C Carbon, Tone			*
R309	150K ohms	±10%	1 watt		RV102	500K ohms Curve C Carbon, Volume			*
R310	Not used				RV201	15K ohms Curve A Carbon, Contrast			620226
R311	180K ohms	± 5%	1 watt		RV301	500K ohms Curve A Carbon, I.F. A.G.C.			620569
R312	33K ohms	±10%	½ watt		RV302	250K ohms Curve A Carbon, Vert. Hold			620472
					RV303	500K ohms Curve A Carbon, Height			620569
					RV304	200K ohms Curve A Carbon, Top Linearity			620487
					RV305	100K ohms Curve A Carbon, Vert. Linearity			620322
					RV306	500K ohms Curve A Carbon, Brightness			*
					RV401	25K ohms Curve A Carbon, Hor. Hold Pre-set			620249
					RV402	25K ohms Curve A Carbon, Hor. Hold			620248
					RV403	2.5 Megohms Curve A Carbon, Focus			620781
					RV404	1 Megohm Curve A Carbon, Width			620769

* Varies with models.

CIRCUIT CODE—50-00 Series TV Chassis (cont.)

Code No.	DESCRIPTION	Part No.	Code No.	DESCRIPTION	Part No.
CAPACITORS			CAPACITORS (cont.)		
C1	3.3pF $\pm 10\%$ NPO disc		C308	220pF $\pm 10\%$ 630VW polystyrene	
C2	2.2pF $\pm 5\%$ NPO disc		C309	270pF $\pm 10\%$ N750 tubular	
C3	18pF $\pm 5\%$ NPO feed thru		C310	0.0022 μ F $\pm 10\%$ 400VW polyester	
C4	3.3pF $\pm 10\%$ NPO disc		C311	0.0082 μ F $\pm 10\%$ 400VW polyester	
C5	15pF $\pm 5\%$ NPO disc		C312	0.022 μ F $\pm 10\%$ 400VW polyester	
C6	0.001 μ F $\pm 100\%$ —0% Hi-K feed		C313	0.018 μ F $\pm 10\%$ 400VW polyester	
C7	1.5pF trimmer		C314	0.039 μ F $\pm 10\%$ 400VW polyester	
C8	0.5-3 pF trimmer		C315	Not used.	
C9	100pF $\pm 7\frac{1}{2}\%$ N3300 feed thru		C316	0.1 μ F $\pm 10\%$ 160VW polyester	
C10	27pF $\pm 5\%$ NPO disc		C317	0.1 μ F $\pm 10\%$ 400VW polyester	
C11	0.001 μ F $\pm 100\%$ —0% Hi-K feed thru		C318	0.01 μ F $\pm 10\%$ 400VW polyester	
C12	0.5-3pF trimmer		C319	0.0033 μ F $\pm 10\%$ 400VW polyester	
C13	0.001 μ F $\pm 100\%$ —0% Hi-K feed thr		C320	2 μ F 500VW Electrolytic	227934
C14	0.68pF special		C321	0.047 μ F $\pm 10\%$ 600VW paper	
C15	470pF $\pm 20\%$ K2000 tubular		C322	0.1 μ F $\pm 10\%$ 400VW polyester	
C16	56pF $\pm 10\%$ N750 tubular (TBI)		C323	0.1 μ F $\pm 10\%$ 400VW polyester	
C17	5.6pF $\pm 5\%$ —0% N150 disc		C324	0.1 μ F $\pm 20\%$ 1000VW paper	
C18	5.6pF $\pm 2\frac{1}{2}\%$ N150 disc		C325	Not used.	
C19	5.6pF $\pm 0\%$ —5% N150 disc		C326	0.039 μ F $\pm 10\%$ 400VW polyester	
C20	0.001 μ F $\pm 100\%$ —0% Hi-K feed thru		C327A	60 μ F 275VW } Electrolytic	229767
C22	220pF $\pm 20\%$ Hi-K disc		C327B	200 μ F 275VW }	
CN	Neutralising capacitance		C328	0.1 μ F $\pm 10\%$ 160VW polyester	
C101	6.8pF $\pm 5\%$ NPO tubular (in L101)		C329	0.022 μ F $\pm 10\%$ 400VW polyester	
C102	39pF $\pm 5\%$ N220 disc (in L101)		C330	Not used.	
C103	0.0039 μ F $\pm 10\%$ 400VW polyester		C331	2 μ F 200VW Electrolytic	227933
C104	100pF $\pm 5\%$ 630VW polystyrene (in TR101)		C332	0.1 μ F $\pm 10\%$ 400VW polyester	
C105	Not used.		C401	150pF $\pm 10\%$ 400VW polystyrene	
C106	470pF $\pm 5\%$ 630VW polystyrene		C402	0.1 μ F $\pm 10\%$ 160VW polyester	
C107	470pF $\pm 5\%$ 630VW polystyrene		C403	150pF $\pm 10\%$ 400VW polystyrene	
C108	0.22 μ F $\pm 80\%$ —20% 25VW Hi-K disc		C404	0.0022 μ F $\pm 10\%$ 400VW polyester	
C109	0.0047 μ F $\pm 10\%$ 400VW polyester		C405	Not used.	
C110	Not used.		C406	0.001 μ F $\pm 10\%$ 400VW polyester	
C111	0.01 μ F $\pm 10\%$ 160VW polyester		C407	0.0047 μ F $\pm 10\%$ 400VW polyester	
C112	0.0068 μ F $\pm 10\%$ 400VW polyester		C408	0.0027 μ F $\pm 10\%$ 400VW polyester	
C113	0.0033 μ F $\pm 10\%$ 400VW polyester		C409	0.22 μ F $\pm 10\%$ 160VW polyester	
C114	0.0018 μ F $\pm 10\%$ 400VW polyester		C410	Not used.	
C201	5.6pF $\pm 5\%$ NPO disc		C411	150pF $\pm 10\%$ 630VW polystyrene	222812
C202	12pF $\pm 5\%$ NPO tubular		C412	24 μ F 300VW Electrolytic	
C203	4-10pF trimmer	231123	C413	680pF $\pm 5\%$ 630VW polystyrene	
C204	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C414	22pF $\pm 10\%$ NPO tubular	
C205	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C415	Not used.	
C206	270pF $\pm 5\%$ 630VW polystyrene		C416	0.001 μ F $\pm 10\%$ 400VW polyester	
C207	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C417	680pF $\pm 5\%$ 630VW polystyrene	
C208	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C418	0.01 μ F $\pm 10\%$ 160VW polyester	
C209	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C419	27pF $\pm 10\%$ N1500 tubular	
C210	Not used.		C420	Not used	
C211	390pF $\pm 5\%$ 630VW polystyrene		C421	0.1 μ F $\pm 10\%$ 400VW polyester	
C212	18pF $\pm 5\%$ NPO tubular (in TR202)		C422	0.047 μ F $\pm 10\%$ 1000VW paper	
C213	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C423	0.047 μ F $\pm 10\%$ 1000VW paper	
C214	0.001 μ F $\pm 100\%$ —0% K5000 feed thru		C424	270pF $\pm 10\%$ 2500VW N750 tubular	
C215	Not used.		C425	0.0047 μ F $\pm 100\%$ —0% 25VW K5000 disc	
C216	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C426	270pF $\pm 10\%$ 2500VW N750 tubular	
C217	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C427	0.18 μ F $\pm 10\%$ 400VW paper	
C218	470pF $\pm 5\%$ 630VW polystyrene		C428	68pF $\pm 10\%$ 2000VW N750 tubular	
C219	0.0047 μ F $\pm 100\%$ —0% K5000 disc		C429	0.1 μ F $\pm 10\%$ 400VW polyester	
C220	Not used.		C430	Not used.	
C221	2.2pF $\pm 20\%$ NPO disc (in TR203)		C431	100 μ F 150VW Electrolytic	229651
C222	4.7pF $\pm 10\%$ N750 bead (in TR203)		C432	100 μ F 150VW Electrolytic	229651
C223	0.022 μ F $\pm 10\%$ 160VW polyester				
C224	0.01 μ F $\pm 10\%$ 160VW polyester				
C225	2.2pF $\pm 20\%$ NPO disc				
C226	39pF $\pm 10\%$ N220 disc	227923			
C227	2 μ F 300VW Electrolytic				
C228	47pF $\pm 10\%$ N750 tubular				
C229	39pF $\pm 10\%$ N750 tubular				
C230	Not used.				
C231	2 μ F 300VW Electrolytic	227923			
C232	12pF $\pm 10\%$ N750 tubular				
C233	0.22 μ F $\pm 10\%$ 160VW polyester				
C234	0.47 μ F $\pm 10\%$ 160VW polyester				
C301	0.1 μ F $\pm 10\%$ 160VW polyester				
C302	0.1 μ F $\pm 10\%$ 160VW polyester				
C303	0.0039 μ F $\pm 10\%$ 400VW polyester				
C304	0.022 μ F $\pm 10\%$ 400VW polyester				
C305	Not used.				
C306	0.0039 μ F $\pm 10\%$ 400VW polyester				
C307	0.0047 μ F $\pm 10\%$ 400VW polyester				

CIRCUIT CODE—50-00 Series TV Chassis (cont.)

Code No.	DESCRIPTION	Part No.	Code No.	DESCRIPTION	Part No.
INDUCTORS			VALVES AND DIODES		
L1	36.875 Mc/s Trap	41859	V101	Radiotron 6AU6	
L2	Converter I.F. Coil	41859	V102	Radiotron 6AL5	
L3	Not used		V103	Radiotron 6AV6	
L4	Oscillator Filament Choke	41866	V104	Radiotron 6AQ5	
L5	Screen Inductor Coil	45017	V201	Radiotron 6BZ6	
La-Lh	Tuning Coil Assembly		V202	Radiotron 6CB6	
	Channel 0	45055	V203	Radiotron 6CB6	
	Channel 1	45056	V204	Radiotron 6EB8	
	Channel 2	45057	V205	Radiotron Picture Tube *	
	Channel 3	45058	V301	Radiotron 6CB6	
	Channel 4	45059	V302	Radiotron 6GV8	
	Channel 5	45060	V401	Radiotron 6AL5	
	Channel 5A	45061	V402	Radiotron 12AU7A	
	Channel 6	45062	V403	Radiotron 6CM5	
	Channel 7	45063	V404	Radiotron 6AU4-GTA	
	Channel 8	45064	V405	Radiotron 1B3-GT	
	Channel 9	45065	MR201	AWV IN87A	
	Channel 10	45066	MR202	AWV IN3193	
	Channel 11	45067	MR401	AWV IN3194	
V1	Radiotron 6GK5		MR402	AWV IN3194	
V2	Radiotron 6HG8		MISCELLANEOUS		
L101	Sound I.F.	43336	VDR301	Voltage Dependent Resistor E298ED/A262	619507
L201	38.375 Mc/s Trap }	43580	VDR302	Voltage Dependent Resistor E298ED/A260	619561
L202	I.F. Input }		VDR401	Voltage Dependent Resistor E29822/06	619562
L203	Detector Filter	40323	FS401	1.5 Amp. Fuse	370023
L204	Detector Filter	49671	FS402	1.5 Amp. Fuse	370023
L205	Detector Peaking	41423	SW301	Power On-Off Switch	*
L206	Sound I.F. Trap 5.5 Mc/s	43593	SG301	Spark Gap (BTS Blank)	600000
L207	Video Ampl. Shunt Peaking	40117	SG401	Spark Gap (BTS Blank)	600000
L208	Video Peaking	45090	MECHANICAL		
L209	Video Ampl. Series Peaking	41423	Anode Cap and Lead, Hor. Output		40044
L301	Ferrox Cube Bead	132011	Cap Ass'y, Yoke		41185
L401	Sine Wave	52150	Clamp Body, Power Cable		208056
L402	H.F. Choke 1.5 μ F	214516	Clamp Lock, Power Cable		208507
L403	Horizontal Linearity	43264	Clamp, Yoke Cap		41186
L404	Vertical Deflection Coil		E.H.T. Box, Lid		41310
L405	Vertical Deflection Coil		E.H.T. Box, Side		41309
L406	Horizontal Deflection Coil	43665	Fuse Holder H.T.		49075
L407	Horizontal Deflection Coil		Fuse Holder, Main		40845
L408	H.T. Filter Choke	51571/001	Lead Ass'y, Ultor		49545
TRANSFORMERS			Screen, Valve (4)		653013
TR1	Balun Assembly	44009	Screen, Valve (1)		653014
TR101	Ratio Detector	40077	Shield Ass'y, Corona		41062
TR102	Speaker Transformer	*	Shield Ass'y, Video Det.		42378
TR201	1st Video I.F.	40902	Shield, Sound I.F.		45141
TR202	2nd Video I.F.	41407	Shield, Tunnel		42429
TR203	3rd Video I.F.	41933	Socket, Kinescope		794629
TR301	Vertical Output	43340/001	Socket, 7 pin		794616
TR401	E.H.T. Transformer	52536	Socket, 7 pin with Saddle		794615
TR402	Power Transformer	53547/001	Socket, 7 pin with Skirt		794569
			Socket, 7 pin Moulded Push-in		794579
			Socket, 8 pin Wafer		793033
			Socket, 8 pin Mica Filled		794582
			Socket, 9 pin Moulded		794599
			Test Point Ass'y		41085

* Varies with models.

50-00 Series Chassis

Top Panel Components:

- RV101 TONE (When fitted at rear)
- RV302 VERT. HOLD
- RV201 CONTRAST
- RV303 HEIGHT
- RV304 TOP LIN.
- RV404 WIDTH
- RV402 HOR. HOLD
- RV401 HOR. HOLD PRESET

Internal Components:

- Vacuum Tubes:** V302 (6GV8), V301 (6CB6), V205 (PICTURE TUBE), V402 (12AU7A), V401 (6AL5), V403 (6CM5), V404 (6AU4-GTA), V405 (1B3-GT), V204 (6EB8), V101 (6AU6), V102 (6AL5), V103 (6AV6), V104 (6AQ5).
- Resistors:** L201, L202, C203, 6BZ6, 6CB6, L101, C327, C432.
- Capacitors:** C203, 6CB6, L206, C431.
- Other:** TR301, TR201, TR202, TR203, TR101, TR102, SYNC TEST, VIDEO DET, VIDEO OUTPUT, B + 1.5A, MAINS 1.5A, SK401 YOKE SOCKET, RV403 FOCUS.

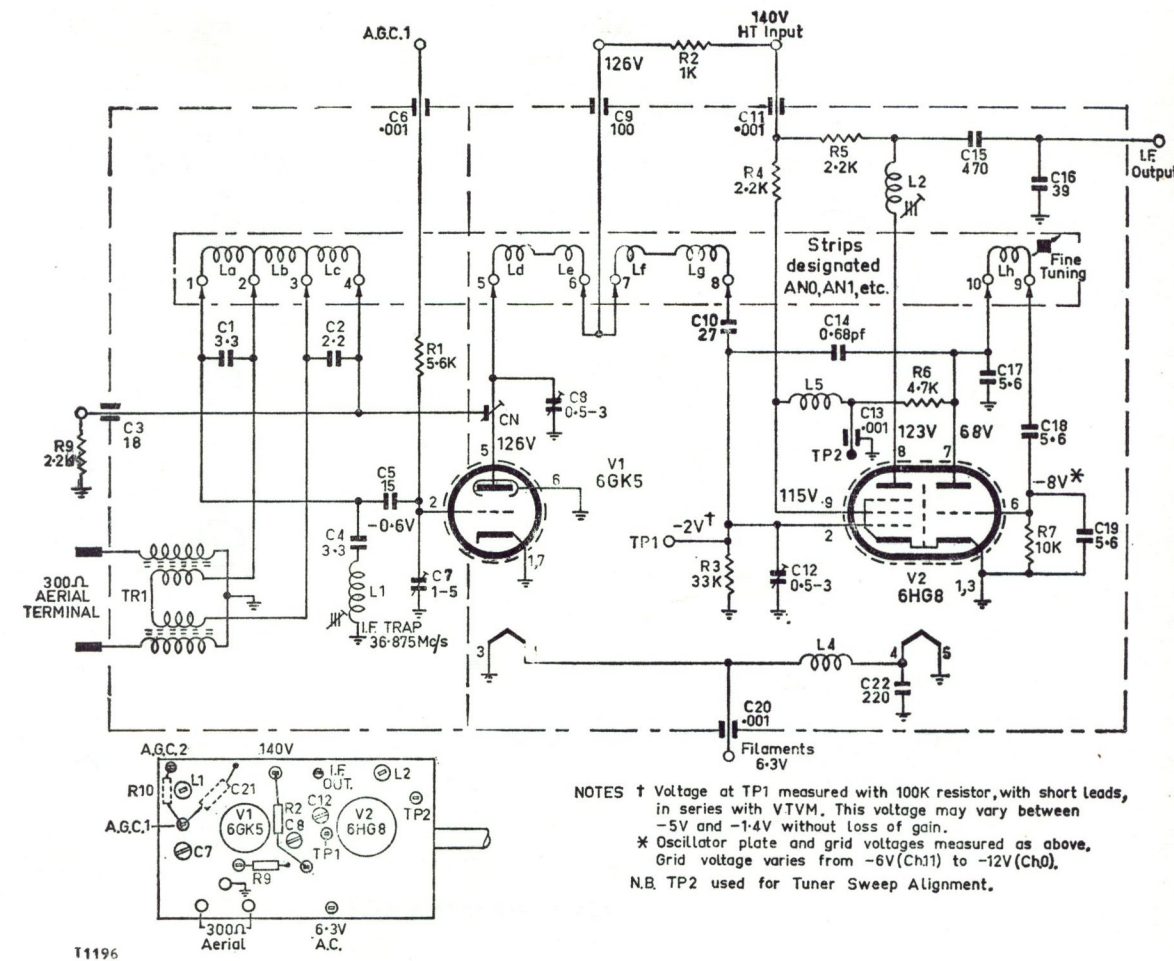
Wiring and Connections:

- Terminals for Adjacent Channel Filter
- SINE WAVE L401
- TR401 (Cross-shaped component)
- L403 HOR. LIN.
- L408
- TR402 MAINS TAPS UNDER CHASSIS:
 - Green: -250 - 260V
 - Blue: -220 - 240V
 - Common: - Common
 - Orange: - Common

Labels: T1218

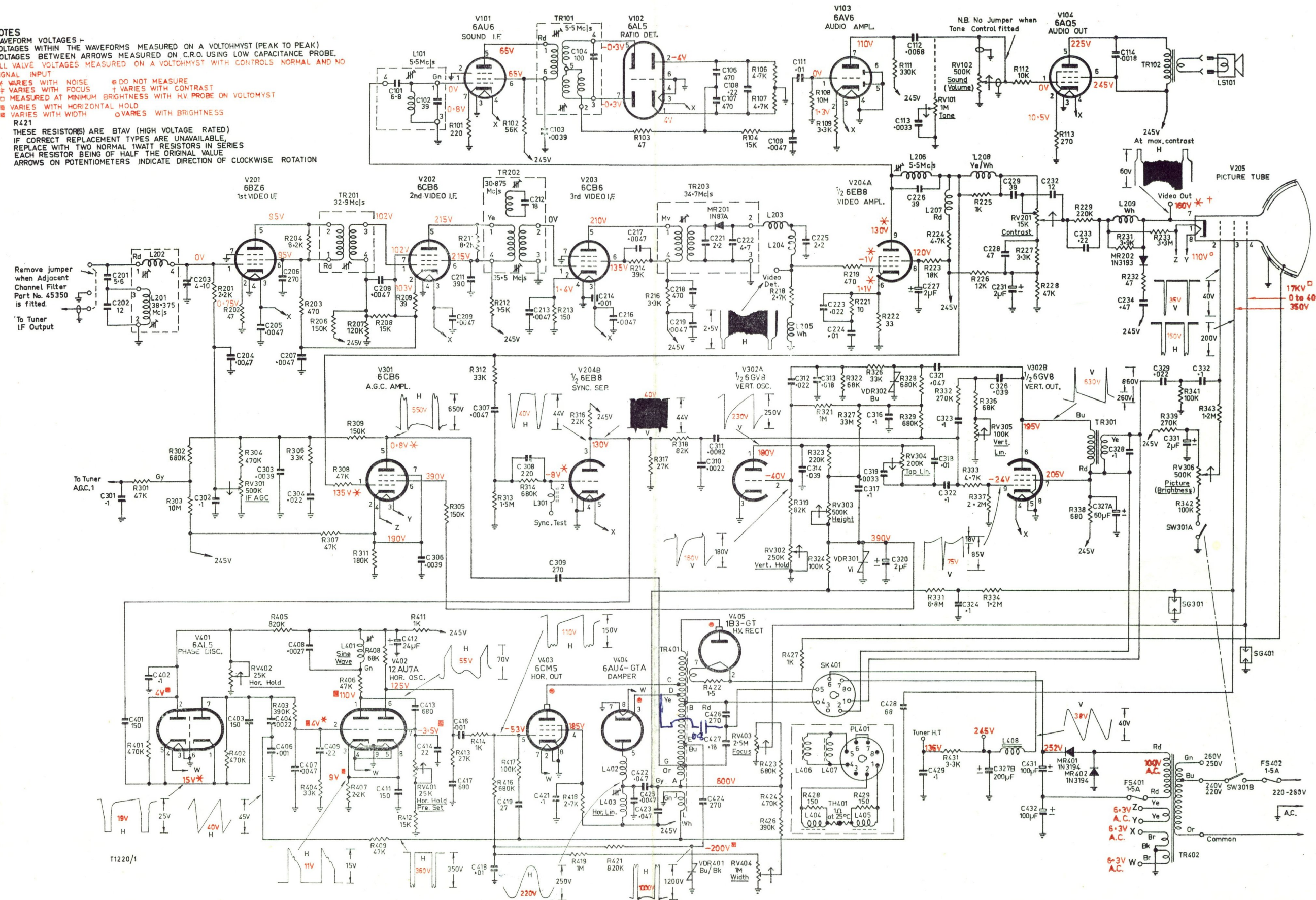
UNDER CHASSIS VIEW

TB Series Neutrode Turret Tuner



50-00 SERIES TELEVISION RECEIVER CHASSIS CIRCUIT

- NOTES
① WAVEFORM VOLTAGES - VOLTAGES WITHIN THE WAVEFORMS MEASURED ON A VOLTOHYMIST (PEAK TO PEAK). VOLTAGES BETWEEN ARROWS MEASURED ON C.R.O. USING LOW CAPACITANCE PROBE.
② ALL VALVE VOLTAGES MEASURED ON A VOLTOHYMIST WITH CONTROLS NORMAL AND NO SIGNAL INPUT.
③ * VARIES WITH NOISE † VARIES WITH CONTRAST
‡ VARIES WITH FOCUS § VARIES WITH BRIGHTNESS
④ MEASURED AT MINIMUM BRIGHTNESS WITH H.V. PROBE ON VOLTOHYMIST
⑤ VARIES WITH HORIZONTAL HOLD
⑥ VARIES WITH WIDTH
⑦ THESE RESISTORS ARE 5W (HIGH VOLTAGE RATED) IF CORRECT REPLACEMENT TYPES ARE UNAVAILABLE, REPLACE WITH TWO NORMAL TWAIT RESISTORS IN SERIES EACH RESISTOR BEING OF HALF THE ORIGINAL VALUE
⑧ ARROWS ON POTENTIOMETERS INDICATE DIRECTION OF CLOCKWISE ROTATION



D.C. RESISTANCE OF WINDINGS

WINDING	D.C. RESISTANCE IN OHMS	WINDING	D.C. RESISTANCE IN OHMS
Tuner Windings	*	TR102 Speaker Transformer	
L101 Sound I.F.	1.3	Primary	500
L201 38.375 Mc/s Trap	*	Secondary	2
L202 Video I.F. Input	*	TR201 1st Video I.F.	
L203 Detector Filter	1.5	Primary	*
L204 Detector Filter	*	Secondary	*
L205 Detector Peaking Coil	5	TR202 2nd Video I.F.	
L206 5.5 Mc/s Trap	7	Primary	*
L207 Video Amp. Shunt Peaking	6.8	Secondary	*
L208 Video Amp. Peaking	3.2	TR203 3rd Video I.F.	
L209 Video Amp. Series Peaking	5	Primary	*
L401 Sine Wave Coil	55	Secondary	*
L402 H.F. Choke	*	TR301 Vertical Output	
L403 Horizontal Linearity	7	Primary Bu-Rd	350
L404 Vertical Deflection	2.5	Secondary Rd-Ye	1
L405 Vertical Deflection	2.5	TR401 Horizontal Output	
L406 Horizontal Deflection	17	Primary C-A	23
L407 Horizontal Deflection	17	Secondary G-B	7
L408 H.T. Filter Choke	25	Tertiary C-Top Cap	415
TR101 Ratio Detector		Tertiary J-L	1.5
Primary	9.5	TR402 Power Transformer	
Secondary	1	Primary Gn-Or	10
		Secondary Rd-Rd	4.5

*Less than 1 ohm.

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

